EX PARTE OR LATE FILED

295 North Maple Avenue
Basking Ridge, NJ 07920

July 18, 1996

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554

RECEIVED
JUL 18 1996
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

RE: Ex Parte Presentation
CC Docket No. 96-45

Dear Mr. Caton:

On July 17, 1996, Robert Mercer of Hatfield Associates, Mark Bryant of MCI, and Jeffrey Nye, Margaret Rettig and I of AT&T, met in Los Angeles with the Staff of the CC Docket No. 96-45 Joint Board on Universal Service. At this meeting, we presented an overview of the Hatfield TSLRIC model that AT&T and MCI have previously placed into the record of this Docket.

Two copies of this Notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(a)(1) of the Commission's rules. Copies of the presentation materials used at this meeting are attached. Because of the late hour of the meeting, this notice is being submitted on the following business day.

Sincerely,

Richard N. Clarke

Attachment

cc: Joint Board Staff
R. Mercer
M. Bryant

02

HATFIELD MODEL VERSION 2.2

Presentation to the

FEDERAL-STATE JOINT BOARD ON UNIVERSAL SERVICE

July 17, 1996

ROBERT A. MERCER
HATFIELD ASSOCIATES, INC.

HATFIELD MODEL ORIGINS AND EVOLUTION

- First nationwide universal service cost study: mid-1994
- Use of Benchmark Cost Model (BCM) outputs: Fall 1995
  - With appropriate enhancements/corrections to BCM
- Filed on behalf of MCI and AT&T in various rate case and universal service proceedings
- Substantial modifications and enhancements in recent months
  - Considers unbundled network elements in addition to local services
  - Improved wire center / interoffice module

HATFIELD MODEL STATUS

- Hatfield Model Version 2.2, Release 1 (HM 2.2.1), filed with the Federal Communications Commission in Docket 96-98 on May 16, 1996 and May 30, 1996
  - Results for unbundled network elements only
- Hatfield Model Version 2.2, Release 2 (HM 2.2.2), available shortly
  - Augments and enhances Release 1
  - Adds output for basic local exchange service

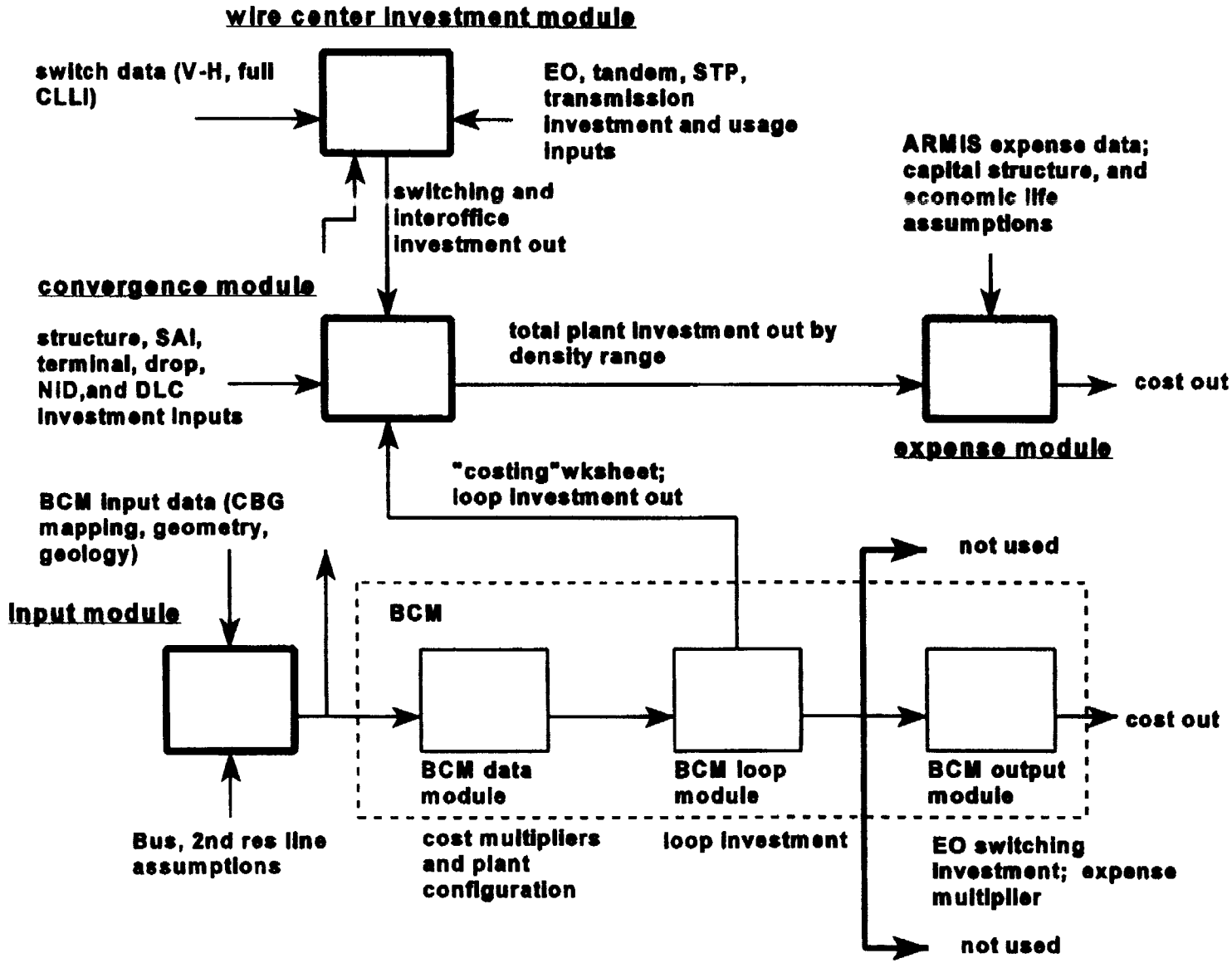
HM 2.2 ATTRIBUTES

- Estimates TSLRIC of:
  - Unbundled network elements
  - Local exchange service(s) (Release 2 only)
- Includes all network elements and costs associated with services modeled
- Allows user to set relevant inputs
- Publicly available
- Better user interface pending

HM 2.2 ATTRIBUTES (Cont'd)

- Utilizes appropriate BCM outputs:
  - Census database
  - Loop configuration and investment
  - LEC wire center approach
- Corrects omissions and enhances value of BCM
  - Pre-processing of BCM inputs
  - Post-processing of BCM outputs
- Provides own model for:
  - Network elements and investments at wire center and above
  - Capital carrying costs, network expenses, and monthly costs

HM 2.2 FLOWCHART



HATFIELD MODEL ENHANCEMENTS/CORRECTIONS TO BCM

Enhancements:

- Additional network elements
  - Distribution: Network Interface Device (NID), drop, splice, Serving Area Interface (SAI), manholes
  - Interoffice transport and signaling networks
- Addition of business, special access, and payphone lines
  - Multipliers applied according to population density range
- Revised structure factor calculations

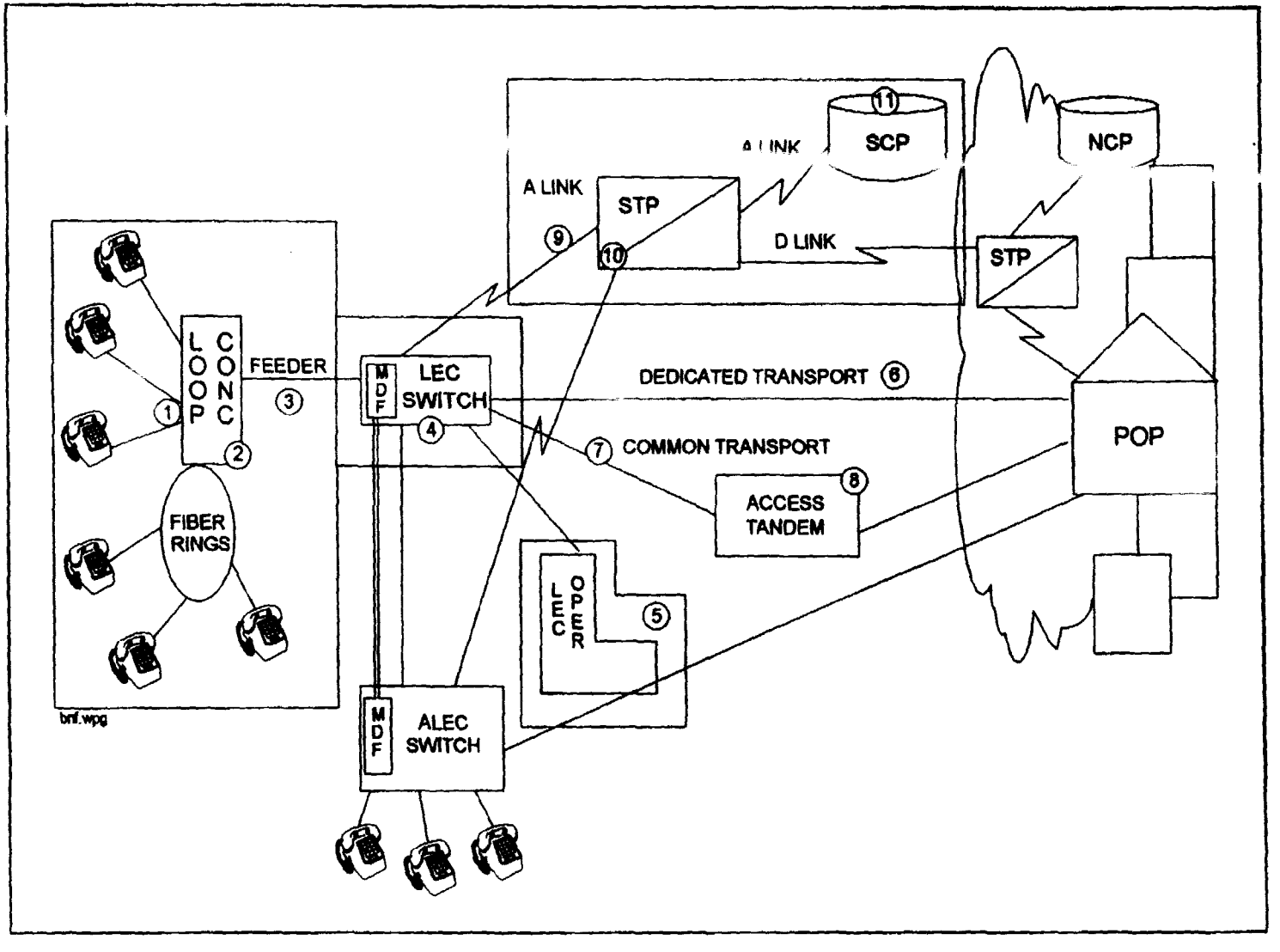
Corrections:

- Appropriate costing of certain network elements
- Much finer-grained calculation of monthly cost to provide services/elements

HATFIELD MODEL 2.2 DETAILS
Expense Module

- Expense module uses convergence module outputs to determine network-related expenses, and capital carrying costs for network investment
- Expense factors are derived primarily from relationships in ARMIS data
- Capital carrying costs use input capital structure constants
  - Debt/equity ratio
  - Costs of debt and equity
  - Economic life by plant category
- Expenses and capital carrying costs are determined by plant category

LOCAL EXCHANGE BASIC NETWORK FUNCTIONS (BNFs)



SAMPLE RESULTS

COST OF NETWORK ELEMENTS

Colorado *MOUNTAIN BELL - CO*

Loop elements	0 - 5 hh/mi2	5 - 200 hh/mi2	200 - 650 hh/mi2	650 - 850 hh/mi2	850 - 2550 hh/mi2	> 2550 hh/mi2	Totals
Loop Distribution							
Annual Cost	$48,657,154	$49,133,714	$21,631,743	$9,138,702	$81,554,587	$46,704,305	$256,820,204
Unit Cost/month	$57.99	$13.24	$6.82	$5.97	$5.48	$4.95	$7.65
Loop Concentration							
Annual Cost	$9,138,800	$17,312,433	$10,353,600	$4,296,025	$37,874,562	$16,618,661	$95,594,081
Unit Cost/month	$10.89	$4.66	$3.26	$2.81	$2.54	$1.76	$2.85
Loop Feeder							
Annual Cost	$2,941,356	$1,925,356	$1,714,606	$807,476	$12,115,660	$8,011,787	$27,516,665
Unit Cost/month	$3.51	$0.52	$0.54	$0.53	$0.81	$0.85	$0.82
Total Loop							
Annual Cost	$60,737,312	$68,371,541	$33,700,151	$14,242,202	$131,545,009	$71,334,753	$379,930,970
Unit Cost/month	$72.38	$18.42	$10.62	$9.30	$8.84	$7.56	$11.31
Total lines	69,925	309,281	264,420	127,575	1,240,743	786,691	2,798,634
Lines served by Digital Loop Carrier	69,925	287,470	165,982	69,510	603,837	262,665	1,459,389

	Annual Cost	Units		Unit Cost	
End office switching	$160,942,354				
1. Port	$48,282,706	2,215,919	Switched lines	$1.82	per line/month
2. Usage	$112,659,648	37,397,367,626	Minutes	$0.0030	per minute
Signaling network elements	$10,457,265				
1. Links	$125,838	450	Links	$23.30	per link/month
2. STP	$8,403,566	25,203,964,676	TCAP+ISUP messages	$0.0003	per message
3. SCP	$1,927,861	1,853,713,800	TCAP messages	$0.0010	per message
Transport network elements					
1. Dedicated	$127,589,789	747,953	Trunks	$14.22	per DS-0 equivalent/month
Switched	$28,187,174	165,238	Trunks	$0.0014	per minute
Special	$99,402,616	582,715	Trunks		
2. Common	$7,954,340	2,766,206,015	Minutes	$0.0030	per minute per leg (orig or term)
3. Tandem switch	$3,309,775	2,447,043,723	Minutes	$0.0014	per minute
Operator systems	$5,848,144				
Total	$679,585,826				

Total cost of switched network elements $19.46 per line/month

SUMMARY

- The Hatfield Model is
  - Public
  - User-adjustable
  - Forward-looking
  - Complete (all costs considered)
- Bottom line comparison with BCM2 can focus on few parameters